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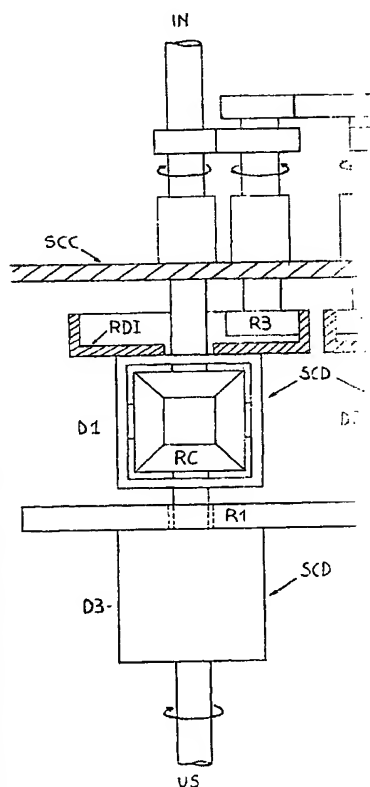
— with international search report

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For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: ADDITIVE GEARSHIFT WITH

CHARS



(57) Abstract: This invention is a mechanical gearbox for every vehicle or machinery that needs one. It works on the grounds of the differential gear as a way to obtain mechanical addition or subtraction of the motion of two different shafts. Inside this mechanism an input-shaft-motion subdivision take place over other different shafts, which speeds are recombined together by differential gears, returning over an output-shaft a wide-range of selectable speeds with their proportional torque (transmission ratios).

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## INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/IT 03/00373A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 F16H37/08

According to International Patent Classification (IPC)

## B. FIELDS SEARCHED

Minimum documentation searched (classification)  
IPC 7 F16H

Documentation searched other than minimum doc.

Electronic data base consulted during the intern.  
EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication
X	US 5 259 823 A (C 9 November 1993 (C) column 5, line 37 figures 1,6
X	FR 2 813 368 A (C 1 March 2002 (2002) page 4, line 20 figure 1
X	DE 20 04 694 A (C 12 August 1971 (C) the whole document
X	DE 101 38 547 A (C 2 October 2002 (C) the whole document

☐ Further documents are listed in the continuation

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Date of the actual completion of the international search

8 March 2004

Name and mailing address of the ISA  
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Classification and IPC

Classification symbols)

Documents included in the fields searched

and, where practical, search terms used)

Relevant passages

Relevant to claim No.

10

1,2

DE)

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3

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Patent document cited in search report	
US 5259823	A
FR 2813368	A
DE 2004694	A
DE 10138547	A

Patent family member(s)	Publication date
2203807 A	26-10-1988
2813368 A1	01-03-2002
2004694 A1	12-08-1971
002276797 A	25-09-2002
10138547 A1	02-10-2002
002129671 A1	19-09-2002